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EXAMINER	
MOORE, IAN N	

ART UNIT	PAPER NUMBER
2616	

DATE MAILED: 06/28/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)	
	09/822,906	RAISSINIA ET AL.	
	Examiner	Art Unit	
	Ian N. Moore	2616	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *13 April 2006*.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-24* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-24* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☒ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☐ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____ .
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other: _____.

DETAILED ACTION

Specification

1. The disclosure is objected to because of the following informalities: the status of a parent reference U.S. application 09/019,939,09/348,718 recited in page 7, line 6-7 must be updated as "**now issued as U.S. Patent 6,192,026**", U.S. application 09/348,645 recited in page 7, lines 8-9 must be updated as "**now issued as U.S. Patent 6,788,950",** and U.S. application 09/348,718 recited in page 7, lines 9-10 must be updated as "**now issued as U.S. Patent 6,657,949"**, respectively.

Appropriate corrections are required.

First set of rejection

Claim Rejections - 35 USC § 103

2. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

3. Claims 1-24 are rejected under 35 U.S.C. 103(a) as being unpatentable over Ryan (US006333937B1) in view of Beser (US006847635B1).

Regarding Claim 1, Ryan discloses a method (see FIG. 5) of for operating a subscriber unit (see FIG. 1, Remote Station R0 or R1) to request access (see FIG. 1, access request) to a common transmission medium (see FIG. 1, wireless network/medium; see col. 4, lines 60-67; OFDM wireless network/medium), said method comprising:

receiving an exclusive assignment to a toneset (see FIG. 4 A, C, D, Tones; see col. 5, lines 15-20; see col. 6, lines 25-50; tones are specifically/exclusively assigned) within an OFDM burst structure during a period (see col. 6, lines 20-50; receiving OFDM burst during a period/time/stage), wherein said toneset represents a non-contention access request channel (see FIG. 2, Common access channel tone 230; see FIG. 4 A,C,D, tones of a common access channel; see col. 6, line 17-50; note that a common access request channel (or tones) is not contention channel), and

an access request burst formation block (see FIG. 2, a combined system of logic 202,regirsters 242,178,180, and transmission portion of remote station, or FIG. 3, R0) that transmits an OFDM burst (see col. 6, lines 20-50; OFDM burst) using tones specified by said assignment while leaving other tones in said OFDM burst available for use by other subscriber units (see col. 5, lines 15-20; col. 6, lines 4-50; each tone is specifically/exclusively assigned to each remote station (i.e. assigning a tone to one remote station while leaving other tones for use by other remote station)), and wherein said OFDM burst comprises an access request OFDM burst (see col. 5, lines 1-10, OFDM common access channel burst); and

transmitting data over said common transmission medium using an assigned time slot (see FIG. 1 and 4A,C, D; transmitting via allocated tone/channel/time slot; see col. 4, line 61 to col. 5, line 4, 21-25; see col. 6, lines 25-50).

Ryan does not explicitly disclose during an inactive period and identifying termination of said inactive period. However, transmitting/receiving request during an inactive/silent/no-activity period to avoid collision and identifying an inactive/silent/no-activity period in order to determine whether or not begin transmission to the network are well known in the art. In

particular, Beser teaches a subscriber unit (see FIG. 2, CM 1-N 15) receiving a non-contention access request channel during an inactive period (see col. 6, lines 3-4, 22-26, 42-44; when there is no activity, CMTS 13 (see FIG. 2) sends a access request channel, that is not a contention, to CM (cable modem)), and identifying termination of said inactive period (see col. 6, lines 4-15, 45-50; when there is activity (i.e. identifying termination of no-activity), CM sends a message to CMTS). Therefore, it would have been obvious to one having ordinary skill in the art at the time the invention was made to receive request when there is no activity, and when there is activity (i.e. identifying termination of no-activity) sending a message, as taught by Beser in the system of Ryan, so that it would accurately and quickly transmit voice call; see Beser col. 1, line 61-64.

Regarding Claim 5, Ryan discloses a method (see FIG. 5) for operating a central access point (see FIG. 1, Base Station Z0) to control access to a common transmission medium (see FIG. 1, wireless network; see col. 4, lines 60-67; OFDM wireless network), said method comprising:

sending an exclusive assignment to a toneset (see FIG. 4 A, C, D, Tones; see col. 5, lines 15-20; see col. 6, lines 25-50) within an OFDM burst structure (see col. 6, lines 20-50; OFDM burst) to a selected subscriber unit (see FIG. 1-3, remote station R0 or R1) during a period at the selected subscriber unit (see col. 6, lines 20-50; transmitting OFDM burst during a period/time/stage), wherein said toneset represents a non-contention access request channel (see FIG. 2, Common access channel tone 230; see FIG. 4 A,C,D, tones of a common access channel; see col. 6, line 17-50; note that a common access request channel (or tones) is not contention channel); and

receiving an access request OFDM burst that includes said toneset as transmitted from said selected subscriber unit (see col. 4, lines 60 to col. 5, lines 20; see col. 6, lines 25-50); and

in response to said access request OFDM burst, said MAC layer processor assigns at least one time slot to said selected subscriber unit for use of said common transmission medium (FIG. 4 A, C, D, the combined system assigns/allocates time slots for subscriber; see col. 4, lines 60 to col. 5, lines 20; col. 5, lines 15-20; see col. 6, lines 25 to col. 7, lines 6).

Ryan does not explicitly disclose detecting an inactive period at a selected subscriber unit and during an inactive period. However, detecting/determining an inactive/silent/no-activity period in order to determine whether or not begin transmission to the network, and transmitting/receiving request during an inactive/silent/no-activity period to avoid collision and are well known in the art. In particular, Beser teaches a central access point (see FIG. 2, CMTS 13) detecting an inactive period at a selected subscriber unit (see FIG. 2, CM 1-N 15; see col. 6, lines 3-4, 22-26, 42-44; when CMTS determines/detects that there is no activity in CM); and sending a non-contention access request channel during an inactive period (see col. 6, lines 3-4, 22-26, 42-44; CMTS 13 sends a access request channel, that is not a contention, to CM (cable modem)). Therefore, it would have been obvious to one having ordinary skill in the art at the time the invention was made to detect and sends request when there is no activity at CM, as taught by Beser in the system of Ryan, so that it would accurately and quickly transmit voice call; see Beser col. 1, line 61-64.

Regarding Claims 9,17 and 19, Ryan discloses an apparatus for operating a subscriber unit (see FIG. 1, Remote Station R0 or R1) to request access (see FIG. 1, access request) to a

common transmission medium (see FIG. 1, wireless network/medium; see col. 4, lines 60-67; OFDM wireless network/medium), said apparatus comprising:

a MAC layer processor (see FIG. 1-3, R0 or R1's MAC layer; see col. 5, lines 50-60) that receives an exclusive assignment to a toneset (see FIG. 4 A, C, D, Tones; see col. 5, lines 15-20; see col. 6, lines 25-50; tones are specifically/exclusively assigned) within an OFDM burst structure during a period (see col. 6, lines 20-50; receiving OFDM burst during a period/time/stage), wherein said toneset represents a non-contention access request channel (see FIG. 2, Common access channel tone 230; see FIG. 4 A,C,D, tones of a common access channel; see col. 6, line 17-50; note that a common access request channel (or tones) is not contention channel) and

an access request burst formation block (see FIG. 2, a combined system of logic 202,regirsters 242,178,180, and transmission portion of remote station, or FIG. 3, R0) that transmits an OFDM burst (see col. 6, lines 20-50; OFDM burst) using tones specified by said assignment while leaving other tones in said OFDM burst available for use by other subscriber units (see col. 5, lines 15-20; col. 6, lines 4-50; each tone is specifically/exclusively assigned to each remote station (i.e. assigning a tone to one remote station while leaving other tones for use by other remote station)), and wherein said OFDM burst comprises an access request OFDM burst (see col. 5, lines 1-10, OFDM common access channel burst); and

transmitting data over said common transmission medium using an assigned time slot (see FIG. 1 and 4A,C, D; transmitting via allocated tone/channel/time slot; see col. 4, line 61 to col. 5, line 4, 21-25; see col. 6, lines 25-50).

Ryan does not explicitly disclose during an inactive period. Ryan does not explicitly disclose during an inactive period. However, transmitting/receiving request during an inactive/silent/no-activity period to avoid collision is well known in the art. In particular, Beser teaches a subscriber unit (see FIG. 2, CM 1-N 15) receiving a non-contention access request channel during an inactive period (see col. 6, lines 3-4, 22-26, 42-44; when there is no activity, CMTS 13 (see FIG. 2) sends a access request channel, that is not a contention, to CM (cable modem)). Therefore, it would have been obvious to one having ordinary skill in the art at the time the invention was made to receive request when there is no activity, as taught by Beser in the system of Ryan, so that it would accurately and quickly transmit voice call; see Beser col. 1, line 61-64.

Regarding Claim 13, 18, 20, Ryan discloses an apparatus for operating a central access point (see FIG. 1, Base Station Z0) to control access to a common transmission medium (see FIG. 1, wireless network; see col. 4, lines 60-67; OFDM wireless network), said apparatus comprising:

a MAC layer processor (see FIG. 1, Base Station's MAC layer; see col. 6, lines 4-15) that sends an exclusive assignment to a toneset (see FIG. 4 A, C, D, Tones; see col. 5, lines 15-20; see col. 6, lines 25-50; tones are specifically/exclusively assigned) within an OFDM burst structure (see col. 6, lines 20-50; OFDM burst) to a selected subscriber unit (see FIG. 1-3, remote station R0 or R1) during a period at the subscriber (see col. 6, lines 20-50; transmitting OFDM burst during a period/time/stage), wherein said toneset represents a non-contention access request channel (see FIG. 2, Common access channel tone 230; see FIG. 4 A,C,D, tones of a common

access channel; see col. 6, line 17-50; note that a common access request channel (or tones) is not contention channel); and

a request access processor (see FIG. 2, a combined system of allocation manager 215, registers 200,221,240,241, table 230, and receiving portions of Base station Z0) that receives an access request OFDM burst that includes said toneset as transmitted from said selected subscriber unit (see col. 4, lines 60 to col. 5, lines 20; see col. 6, lines 25-50); and

wherein in response to said access request OFDM burst, said MAC layer processor assigns at least one time slot to said selected subscriber unit for use of said common transmission medium (FIG. 4 A, C, D, the combined system assigns/allocates time slots for subscriber; see col. 4, lines 60 to col. 5, lines 20; col. 5, lines 15-20; see col. 6, lines 25 to col. 7, lines 6).

Ryan does not explicitly disclose an inactive period. However, transmitting/receiving request during an inactive/silent/no-activity period to avoid collision and are well known in the art. In particular, Beser teaches a central access point (see FIG. 2, CMTS 13) sending a non-contention access request channel during an inactive period (see col. 6, lines 3-4, 22-26, 42-44; when CMTS 13 determines/detects that there is no activity in CM, it sends a access request channel, that is not a contention, to CM (cable modem)). Therefore, it would have been obvious to one having ordinary skill in the art at the time the invention was made to send request when there is no activity at CM, as taught by Beser in the system of Ryan, so that it would accurately and quickly transmit voice call; see Beser col. 1, line 61-64.

Regarding Claims 2 and 10, Ryan discloses a transform block (see FIG. 2, a combined system of logic 202, encoder and decoder of remote station R0) that converting said OFDM burst

into the time domain prior to transmitting said OFDM burst (see col. 4, lines 35-45; frequency to time conversion).

Regarding claims 3, 7, 11 and 15, the combined system of Ryan and Beser discloses transmitting OFDM burst signals as described above in claims 1, 5, 9 and 13. Beser further teaches wherein transmitting said request signals termination of a silent period in a voice call (see col. 2, lines 26-44).

Therefore, it would have been obvious to one having ordinary skill in the art at the time the invention was made to send request message termination of a silent period in a voice call, as taught by Beser in the system of Ryan, so that it would accurately and quickly transmit voice call; see Beser col. 1, line 61-64.

Regarding claims 4 and 12, Ryan discloses transmitting OFDM burst comprises transmitting said burst in a exclusively reserved time slot determined by MAC layer protocol (see FIG. 3-4, OFDM specifically/exclusively assigned time slot by MAC layer; see col. 5, lines 15-60; col. 6, lines 25-50). Beser also discloses transmitting burst by a DOCSIS MAC layer protocol (see col. 5, lines 1-9, 63 to col. 6, lines 2-22; transmission of burst by DOCSIS MAC layer).

Therefore, it would have been obvious to one having ordinary skill in the art at the time the invention was made to utilize DOCSIS MAC layer for transmission, as taught by Beser in the system of Ryan, so that it would accurately and quickly transmit voice call; and also provides faster service to the subscribers; see Beser col. 2, line 50 to col. 3, line 2; and by utilizing standard DOSCSIS MAC, it would also provide compatibility and interoperability in the network.

Regarding claims 6 and 14, Ryan discloses wherein said access request OFDM burst includes access request information from subscriber units other than said selected subscriber unit (see col. 5, lines 15-20).

Regarding claims 8 and 16, Ryan discloses receiving OFDM burst comprises receiving said access request burst in a time slot determined by MAC layer protocol (see FIG. 3-4, OFDM time slot by MAC layer; see col. 5, lines 15-60; col. 6, lines 25-50). Beser also discloses receiving burst by a DOCSIS MAC layer protocol (see col. 5, lines 1-9, 63 to col. 6, lines 2-50; transmission of burst by DOCSIS MAC layer).

Therefore, it would have been obvious to one having ordinary skill in the art at the time the invention was made to utilize DOCSIS MAC layer for transmission, as taught by Beser in the system of Ryan, so that it would accurately and quickly transmit voice call; and also provides faster service to the subscribers; see Beser col. 2, line 50 to col. 3, line 2; and by utilizing standard DOSCSIS MAC, it would also provide compatibility and interoperability in the network.

Regarding claim 21, the combined system of Ryan and Beser discloses the inactive period as a silent period as described above in claim 1. Moreover, having a silent period in a voice call is well known in the art. Beser further teaches wherein inactive period is a silent period in a voice call (see col. 2, lines 26-44; see col. 5, line 10-16; see col. 6, line 3-20, 41-55).

Therefore, it would have been obvious to one having ordinary skill in the art at the time the invention was made to detect/define a silent period in a voice call, as taught by Beser in the system of Ryan, so that it would accurately and quickly transmit voice call from a user to another user by utilizing the data packet carrying ability of network; and also by detecting silent period in

a voice call, the time slots are not wasted during silent portions of the voice call, thereby providing efficient allocation; see Beser col. 2, line 65 to col. 3, line 2.

Regarding claim 22, the combined system of Ryan and Beser discloses an OFDM burst as described above in claims 1. Moreover, transmitting a burst in response to detecting activity is well known in the art. Beser further teaches transmitting a burst in response to detecting activity (see col. 2, lines 26-44; see col. 4, line 54 to col. 5, line 55; col. 6, line 4-55).

Therefore, it would have been obvious to one having ordinary skill in the art at the time the invention was made to transmit in response to activity, as taught by Beser in the system of Ryan, so that it would accurately and quickly transmit voice call; and also provides faster service to the subscribers; see Beser col. 2, line 50 to col. 3, line 2.

Regarding claim 23, the combined system of Ryan and Beser discloses transmitting an OFDM burst as described above in claim 1. Moreover, receiving grants in response to transmitting the burst is well known in the art. Beser further teaches receiving data slot grants in response to transmitting the burst (see col. 4, line 36 to col. 5, line 55; col. 6, line 4-55).

Therefore, it would have been obvious to one having ordinary skill in the art at the time the invention was made to receive data slot grants, as taught by Beser in the system of Ryan, so that it would accurately and quickly transmit voice call; and also provides faster service to the subscribers; see Beser col. 2, line 50 to col. 3, line 2.

Regarding claim 24, Ryan discloses wherein said toneset comprises a predefined number of tones (see FIG. 4 A, C, D, Tones; see col. 5, lines 15-20; see col. 6, lines 25-50).

Second set of rejection

4. Claims 1-24 are rejected under 35 U.S.C. 103(a) as being unpatentable over McFarland (US006628673B1) in view of Beser (US006847635B1).

Regarding Claim 1, McFarland discloses a method for operating a subscriber unit (see FIG. 3, nodes such as phone 100, organizer 200 or laptop 300) to request access to a common transmission medium (see FIG. 1, a transmission medium; see col. 4, lines 10-36, 50-55; request/requirement access to allocate for a transmission medium), said method comprising:

receiving an exclusive assignment to a toneset (see FIG. 3, sub-channel/frequency/symbols/tones 315; see col. 1, lines 44-50;see col. 4, lines 22-32; 55-64; sub-channel/frequency/symbols/tones are specifically/exclusively assigned) within an OFDM burst structure during a period (see col. 4, lines 4-9; 50-60; OFDM channel/burst during a period/time/stage), wherein said toneset represents a non-contention access request channel (see col. 4, lines 4-9; 50-60; see col. 5, lines 50-56; note that request access sub-channel/frequency/symbols/tones are not contention channel), and

transmiting an OFDM burst (see col. 4, lines 4-9; 50-60; OFDM channel/burst) using tones specified by said assignment while leaving other tones in said OFDM burst available for use by other subscriber units (see FIG. 5; see col. 4, lines 50-67; col. 6, lines 3-42; each sub-channel/frequency/symbols/tones are specifically/exclusively assigned to each station, and setting other sub-channel/frequency/symbols/tones to zero for other stations), and wherein said OFDM burst comprises an access request OFDM burst (see col. 4, lines 4-9; 50-60; see col. 5, lines 50-56; OFDM channel/burst request access for allocation);

transmitting data over said common transmission medium using an assigned time slot (see FIG. 3 and 5; transmitting via allocated channel/time-slot; see col. 3, line 60-67; col. 4, lines 34-40, 50-67; col. 5, line 65 to col. 6, line 35).

McFarland does not explicitly disclose during an inactive period and identifying termination of said inactive period. However, transmitting/receiving request during an inactive/silent/no-activity period to avoid collision and identifying an inactive/silent/no-activity period in order to determine whether or not begin transmission to the network are well known in the art. In particular, Beser teaches a subscriber unit (see FIG. 2, CM 1-N 15) receiving a non-contention access request channel during an inactive period (see col. 6, lines 3-4, 22-26, 42-44; when there is no activity, CMTS 13 (see FIG. 2) sends a access request channel, that is not a contention, to CM (cable modem)), and identifying termination of said inactive period (see col. 6, lines 4-15, 45-50; when there is activity (i.e. identifying termination of no-activity), CM sends a message to CMTS). Therefore, it would have been obvious to one having ordinary skill in the art at the time the invention was made to receive request when there is no activity, and when there is activity (i.e. identifying termination of no-activity) sending a message, as taught by Beser in the system of McFarland, so that it would accurately and quickly transmit voice call; see Beser col. 1, line 61-64.

Regarding Claim 5, McFarland discloses apparatus for operating a central access point (see FIG. 3, Base Station 400) to control access to a common transmission medium (see FIG. 1, a transmission medium; see col. 4, lines 10-36, 50-55; request/requirement access to allocate for a transmission medium), said apparatus comprising:

a MAC layer processor (see FIG. 3, a combined system of 420, 440 and 430 with MAC layer processing in accordance IEEE 802.11, WLAN; see col. 7, lines 10-40) that sends an exclusive assignment to a toneset (see FIG. 3, sub-channel/frequency/symbols/tones 315; see col. 1, lines 44-50;see col. 4, lines 22-32; 55-64; sub-channel/frequency/symbols/tones are specifically/exclusively assigned) within an OFDM burst structure during a period (see col. 4, lines 4-9; 50-60; OFDM channel/burst during a period/time/stage) to a selected subscriber unit (see FIG. 3, nodes such as phone 100, organizer 200 or laptop 300), wherein said toneset represents a non-contention access request channel (see col. 4, lines 4-9; 50-60; see col. 5, lines 50-56; note that request access sub-channel/frequency/symbols/tones are not contention channel), and

a request access processor (see FIG. 2, a combined system of 450 and 420) that receives an access request OFDM burst that includes said toneset as transmitted from said selected subscriber unit (see col. 4, lines 60 to col. 5, lines 20; see col. 6, lines 25-50); and

wherein in response to said access request OFDM burst, said MAC layer processor assigns at least one time slot to said selected subscriber unit for use of said common transmission medium (see FIG. 3 and 5; the combined system assigns/allocates time slots for a node/laptop; see col. 4, lines 60 to col. 5, lines 20; col. 5, lines 15-20; see col. 6, lines 25 to col. 7, lines 6).

McFarland does not explicitly disclose detecting an inactive period at a selected subscriber unit and during an inactive period. However, detecting/determining an inactive/silent/no-activity period in order to determine whether or not begin transmission to the network, and transmitting/receiving request during an inactive/silent/no-activity period to avoid collision and are well known in the art. In particular, Beser teaches a central access point (see

FIG. 2, CMTS 13) detecting an inactive period at a selected subscriber unit (see FIG. 2, CM 1-N 15; see col. 6, lines 3-4, 22-26, 42-44; when CMTS determines/detects that there is no activity in CM); and sending a non-contention access request channel during an inactive period (see col. 6, lines 3-4, 22-26, 42-44; CMTS 13 sends a access request channel, that is not a contention, to CM (cable modem)). Therefore, it would have been obvious to one having ordinary skill in the art at the time the invention was made to detect and sends request when there is no activity at CM, as taught by Beser in the system of McFarland, so that it would accurately and quickly transmit voice call; see Beser col. 1, line 61-64.

Regarding Claims 9,17 and 19, McFarland discloses an apparatus for operating a subscriber unit (see FIG. 3, nodes such as phone 100, organizer 200 or laptop 300) to request access to a common transmission medium (see FIG. 1, a transmission medium; see col. 4, lines 10-36, 50-55; request/requirement access to allocate for a transmission medium), said apparatus comprising:

a MAC layer processor (see FIG. 3, a combined system of 320, 340 and 330 with MAC layer processing in accordance IEEE 802.11, WLAN; see col. 7, lines 10-40) that receives an exclusive assignment to a toneset (see FIG. 3, sub-channel/frequency/symbols/tones 315; see col. 1, lines 44-50;see col. 4, lines 22-32; 55-64; sub-channel/frequency/symbols/tones are specifically/exclusively assigned) within an OFDM burst structure during a period (see col. 4, lines 4-9; 50-60; OFDM channel/burst burst during a period/time/stage), wherein said toneset represents a non-contention access request channel (see col. 4, lines 4-9; 50-60; see col. 5, lines 50-56; note that request access sub-channel/frequency/symbols/tones are not contention channel), and

an access request burst formation block (see FIG. 2, a combined system of 350 and 320) that transmits an OFDM burst (see col. 4, lines 4-9; 50-60; OFDM channel/burst) using tones specified by said assignment while leaving other tones in said OFDM burst available for use by other subscriber units (see FIG. 5; see col. 4, lines 50-67; col. 6, lines 3-42; each sub-channel/frequency/symbols/tones are specifically/exclusively assigned to each station, and setting other sub-channel/frequency/symbols/tones to zero for other stations), and wherein said OFDM burst comprises an access request OFDM burst (see col. 4, lines 4-9; 50-60; see col. 5, lines 50-56; OFDM channel/burst request access for allocation);

transmitting data over said common transmission medium using an assigned time slot (see FIG. 3 and 5; transmitting via allocated channel/time-slot; see col. 3, line 60-67; col. 4, lines 34-40, 50-67; col. 5, line 65 to col. 6, line 35).

McFarland does not explicitly disclose during an inactive period. However, transmitting/receiving request during an inactive/silent/no-activity period to avoid collision is well known in the art. In particular, Beser teaches a subscriber unit (see FIG. 2, CM 1-N 15) receiving a non-contention access request channel during an inactive period (see col. 6, lines 3-4, 22-26, 42-44; when there is no activity, CMTS 13 (see FIG. 2) sends a access request channel, that is not a contention, to CM (cable modem)). Therefore, it would have been obvious to one having ordinary skill in the art at the time the invention was made to receive request when there is no activity, as taught by Beser in the system of McFarland, so that it would accurately and quickly transmit voice call; see Beser col. 1, line 61-64.

Regarding Claims 13, 18, 20, McFarland discloses apparatus for operating a central access point (see FIG. 3, Base Station 400) to control access to a common transmission medium

(see FIG. 1, a transmission medium; see col. 4, lines 10-36, 50-55; request/requirement access to allocate for a transmission medium), said apparatus comprising:

a MAC layer processor (see FIG. 3, a combined system of 420, 440 and 430 with MAC layer processing in accordance IEEE 802.11, WLAN; see col. 7, lines 10-40) that sends an exclusive assignment to a toneset (see FIG. 3, sub-channel/frequency/symbols/tones 315; see col. 1, lines 44-50;see col. 4, lines 22-32; 55-64; sub-channel/frequency/symbols/tones are specifically/exclusively assigned) within an OFDM burst structure during a period (see col. 4, lines 4-9; 50-60; OFDM channel/burst during a period/time/stage) to a selected subscriber unit (see FIG. 3, nodes such as phone 100, organizer 200 or laptop 300), wherein said toneset represents a non-contention access request channel (see col. 4, lines 4-9; 50-60; see col. 5, lines 50-56; note that request access sub-channel/frequency/symbols/tones are not contention channel), and

a request access processor (see FIG. 2, a combined system of 450 and 420) that receives an access request OFDM burst that includes said toneset as transmitted from said selected subscriber unit (see col. 4, lines 60 to col. 5, lines 20; see col. 6, lines 25-50); and

wherein in response to said access request OFDM burst, said MAC layer processor assigns at least one time slot to said selected subscriber unit for use of said common transmission medium (see FIG. 3 and 5; the combined system assigns/allocates time slots for a node/laptop; see col. 4, lines 60 to col. 5, lines 20; col. 5, lines 15-20; see col. 6, lines 25 to col. 7, lines 6).

McFarland does not explicitly disclose an inactive period. However, transmitting/receiving request during an inactive/silent/no-activity period to avoid collision and are well known in the art. In particular, Beser teaches a central access point (see FIG. 2, CMTS

13) sending a non-contention access request channel during an inactive period (see col. 6, lines 3-4, 22-26, 42-44; when CMTS 13 determines/detects that there is no activity in CM, it sends a access request channel, that is not a contention, to CM (cable modem)). Therefore, it would have been obvious to one having ordinary skill in the art at the time the invention was made to send request when there is no activity at CM, as taught by Beser in the system of McFarland, so that it would accurately and quickly transmit voice call; see Beser col. 1, line 61-64.

Regarding Claims 2 and 10, McFarland discloses converting said OFDM burst into the time domain prior to transmitting said OFDM burst (see col. 4, lines 1-60; FFT, Fast Fourier Transform between frequency and time).

Regarding claims 3,7,11 and 15, the combined system of McFarland and Beser discloses transmitting OFDM burst signals as described above in claim 1, 5,9, 13. Beser further teaches wherein transmitting said request signals termination of a silent period in a voice call (see col. 2, lines 26-44).

Therefore, it would have been obvious to one having ordinary skill in the art at the time the invention was made to send request message termination of a silent period in a voice call, as taught by Beser in the system of McFarland, so that it would accurately and quickly transmit voice call; see Beser col. 1, line 61-64.

Regarding claims 4 and 12, McFarland discloses transmitting OFDM burst comprises transmitting said burst in a exclusively reserved time slot determined by MAC layer protocol (see FIG. 5, OFDM specifically/exclusively assigned time slot via MAC layer; see col. 7, lines 10-40; col. 4, lines 4-9; 50-60). Beser also discloses transmitting burst by a DOCSIS MAC layer

protocol (see col. 5, lines 1-9, 63 to col. 6, lines 2-22; transmission of burst by DOCSIS MAC layer).

Therefore, it would have been obvious to one having ordinary skill in the art at the time the invention was made to utilize DOCSIS MAC layer for transmission, as taught by Beser in the system of McFarland, so that it would accurately and quickly transmit voice call; and also provides faster service to the subscribers; see Beser col. 2, line 50 to col. 3, line 2; and by utilizing standard DOSCSIS MAC, it would also provide compatibility and interoperability in the network.

Regarding claims 6 and 14, McFarland discloses wherein said access request OFDM burst includes access request information from subscriber units other than said selected subscriber unit (see col. 4, lines 35-65; see col. 6, lines 1-35).

Regarding claims 8 and 16, McFarland discloses receiving OFDM burst comprises receiving said access request burst in a time slot determined by MAC layer protocol (see FIG. 5, OFDM specifically/exclusively assigned time slot via MAC layer; see col. 7, lines 10-40; col. 4, lines 4-9; 50-60). Beser also discloses receiving burst by a DOCSIS MAC layer protocol (see col. 5, lines 1-9, 63 to col. 6, lines 2-50; transmission of burst by DOCSIS MAC layer).

Therefore, it would have been obvious to one having ordinary skill in the art at the time the invention was made to utilize DOCSIS MAC layer for transmission, as taught by Beser in the system of McFarland, so that it would accurately and quickly transmit voice call; and also provides faster service to the subscribers; see Beser col. 2, line 50 to col. 3, line 2; and by utilizing standard DOSCSIS MAC, it would also provide compatibility and interoperability in the network.

Regarding claim 21, the combined system of McFarland and Beser discloses the inactive period as a silent period as described above in claim 1. Moreover, having a silent period in a voice call is well known in the art. Beser further teaches wherein inactive period is a silent period in a voice call (see col. 2, lines 26-44; see col. 5, line 10-16; see col. 6, line 3-20, 41-55).

Therefore, it would have been obvious to one having ordinary skill in the art at the time the invention was made to detect/define a silent period in a voice call, as taught by Beser in the system of McFarland, so that it would accurately and quickly transmit voice call from a user to another user by utilizing the data packet carrying ability of network; and also by detecting silent period in a voice call, the time slots are not wasted during silent portions of the voice call, thereby providing efficient allocation; see Beser col. 2, line 65 to col. 3, line 2.

Regarding claim 22, the combined system of McFarland and Beser discloses an OFDM burst as described above in claims 1. Beser further teaches transmitting a burst in response to detecting activity (see col. 2, lines 26-44; see col. 4, line 54 to col. 5, line 55; col. 6, line 4-55).

Therefore, it would have been obvious to one having ordinary skill in the art at the time the invention was made to transmit in response to activity, as taught by Beser in the system of McFarland, so that it would accurately and quickly transmit voice call; and also provides faster service to the subscribers; see Beser col. 2, line 50 to col. 3, line 2.

Regarding claim 23, the combined system of McFarland and Beser discloses transmitting an OFDM burst as described above in claim 1. However, receiving grants in response to transmitting the burst is well known in the art. Beser teaches receiving data slot grants in response to transmitting the burst (see col. 4, line 36 to col. 5, line 55; col. 6, line 4-55).

Therefore, it would have been obvious to one having ordinary skill in the art at the time the invention was made to receive data slot grants, as taught by Beser in the system of McFarland, so that it would accurately and quickly transmit voice call; and also provides faster service to the subscribers; see Beser col. 2, line 50 to col. 3, line 2.

Regarding claim 24, McFarland discloses wherein said toneset comprises a predefined number of tones (see col. 1, lines 44-50;see col. 4, lines 22-32; 55-64; sub-channel/frequency/symbols/tones 315).

Response to Arguments

5. Applicant's arguments with respect to claims 1-24 have been considered but are moot in view of the new ground(s) of rejection.

In the first set of rejection, regarding claims 1-24, the applicant argued that, "...Ryan does not discloses receiving an exclusive assignment to a toneset within an OFDM burst structure during an inactive period..." in page 9, paragraph 2; entire page 10-11.

In response to applicant's argument, the examiner respectfully disagrees with the argument above. The combined system of Ryan and Beser discloses the argued claimed invention as set forth in above rejection.

Ryan discloses receiving an exclusive assignment to a toneset (**see FIG. 4 A, C, D, Tones; see col. 5, lines 15-20; see col. 6, lines 25-50; tones are specifically/exclusively assigned**) within an OFDM burst structure during a period (**see col. 6, lines 20-50; receiving OFDM burst during a period/time/stage**). Beser teaches receiving a non-contention access request channel during an inactive period (**see col. 6, lines 3-4, 22-26, 42-44; when there is no**

activity, CMTS 13 (see FIG. 2) sends a access request in a channel, that is not a contention, to CM (cable modem)). Thus, it is clear that the combined system of Ryan and Beser discloses argued claimed invention.

In the second set of rejection, regarding claims 1-24, the applicant argued that, "...neither McFarland...discloses receiving an exclusive assignment to a toneset within an OFDM burst structure during an inactive period and transmitting an access request burst using tones specified by an exclusive assignment..." in page 12-13.

In response to applicant's argument, the examiner respectfully disagrees with the argument above. The combined system of McFarland and Beser discloses the argued claimed invention as set forth in above rejection.

Ryan discloses receiving an exclusive assignment to a toneset (see FIG. 3, sub-channel/frequency/symbols/tones 315; see col. 1, lines 44-50;see col. 4, lines 22-32; 55-64; sub-channel/frequency/symbols/tones are specifically/exclusively assigned) within an OFDM burst structure during a period (see col. 4, lines 4-9; 50-60; OFDM channel/burst during a period/time/stage), wherein said toneset represents a non-contention access request channel (see col. 4, lines 4-9; 50-60; see col. 5, lines 50-56; note that request access sub-channel/frequency/symbols/tones are not contention channel). Beser teaches a subscriber unit (see FIG. 2, CM 1-N 15) receiving a non-contention access request channel during an inactive period (see col. 6, lines 3-4, 22-26, 42-44; when there is no activity, CMTS 13 (see FIG. 2) sends a access request channel, that is not a contention, to CM (cable modem)). Thus, it is clear that the combined system of McFarland and Beser discloses argued claimed invention.

Conclusion

6. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Ian N. Moore whose telephone number is 571-272-3085. The examiner can normally be reached on 9:00 AM- 6:00 PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Doris To can be reached on 571-272-7629. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

INM
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